

REMARKS

Summary

Applicant has amended Claims 1, 3-6, 8, 10, 11, 16, 17 and 19. No new matter has been added as a result of the amendment. Claims 1-21 are pending after entry of this amendment.

Rejection of Claims

Claims 1-21 received a final rejection under 35 U.S.C. §102(a) as anticipated by Negishi et al. (U.S. Patent 5,907,314). Applicant amended independent claims 1, 10 and 19 and amended dependent claims 3-6, 8, 11, 16 and 17. Applicant submits that pending claims 1-21 are patentable over the reference cited by the Examiner. Examiner made this rejection final and responded to Applicant's arguments in the Amendment of June 18, 2003, as being moot in light of the new grounds of rejection. Since new grounds of rejection have been considered by the Examiner, even though the new grounds are based upon prior art disclosed in an IDS submitted at the time of filing, Applicant respectfully requests that the finality of the rejection be withdrawn as premature if Examiner does not find the claims in condition for allowance.

Claim 1 has been amended to better clarify the arrangement and to better define the predetermined number of source lines. Claim 1 recites that a liquid crystal display with a switching unit to switch and allocate an image signal from each of the first and second source drivers to a predetermined number of source lines. The predetermined number of source lines is a number of lines less than the number of source lines within either of the two groups. This arrangement alleviates a problem for high definition liquid crystal displays by maintaining the ease of writing, which is dramatically decreased when the source driver allocates the image signal individually to each added source line.

The cited figure in Negishi does not anticipate the switching and allocation of the image signal from the source driver to the source lines, but instead discloses the conditioning of an image signal to an electrode drive circuit. Moreover, claim 1 now recites that the predetermined number of source lines is a number of lines less than the number of source lines within either of the two groups. This is not shown or suggested in the Negishi reference.

Claim 10 has been amended to better clarify the arrangement and define the predetermined number of source lines. It recites a method for applying the image signal to the source lines in a liquid crystal display that includes the steps of switching and allocating the image signal of each individual source driver to a predetermined number of source lines from one of the two groups of divided source lines in order to maintain the ease of writing in the liquid crystal display. The claim now recites that the predetermined number of source lines is a number of lines less than the number of source lines within either of the two groups. This method has a minimum effect on the ease of writing coefficient, thus solving the problem of added source lines to liquid crystal displays for high definition applications without substantially degrading the ease of writing.

The reference cited by Examiner does not anticipate a method for allocating the image signal to a predetermined number of source lines. Moreover, Claim 10 now recites that the predetermined number of source lines is a number of lines less than the number of source lines within either of the two groups, and the reference does not show or suggest this.

Claim 19 has been amended for clarification of the arrangement and to better define the term "predetermined number of source lines," and it recites a liquid crystal display with a switching unit to switch and allocate an image signal from each of the first and second source drivers to a predetermined number of source lines. As mentioned previously, it is the predetermined number of source lines, a number less than the number of source lines of one of the two groups, fed by the source driver that solves the ease of writing problem for high definition liquid crystal displays.

The cited figure does not disclose the switching and allocation of an image signal to a predetermined number of source lines but instead discloses a video switch that conditions the input to the electrode drive circuit instead. Moreover, Claim 19 now recites that the predetermined number of source lines is a number of lines less than the number of source lines within either of the two groups. The Negishi reference does not show or anticipate this.

More specifically, the figures cited in the Negishi reference (U.S. Patent No. 5,907,314), anticipating claim 1 and 19, are directed to the inversion and delay of video signals enabling the delivery of a multitude of various video signals to the input of the electrode drive circuits at periodic and varying times. Negishi does not anticipate an apparatus or method for switching or demultiplexing the video signal

from the output of the electrode drive circuits, a device that is comparable to the source drivers in the pending claims. For instance, Negishi discloses, in figure 5, a switch that changes the state of the video signal as the input to both the lower and upper signal electrode drive circuits. Since the switch has several signals going into it and two signals, S_{VU} and S_{VL} , leaving it, that particular switch better fits the definition of a multiplexer. However, claim 1 recites that an image signal from the source drivers is allocated to a predetermined number of source lines, not the signal to the source drivers.

Similarly, the switch in the Negishi reference, figure 12, item 109, is a video generator sending the video signals, S_{VU} and S_{VL} , to the input of the upper and lower signal electrode drive circuits, respectively. This reference is cited as anticipating claim 19, but claim 19 recites switching of the image signal from the source driver to a predetermined number of source lines that is less than the number of source lines within the group. The switch in figure 12 is similar to the switch in figure 5 of the Negishi reference and its purpose is to condition the video signal and to feed the input of the electrode drive circuits. It does nothing to the output of the electrode drive circuits. Again, this reference does not anticipate the arrangement of claim 19.

Examiner's rejection of dependent claims 2-9, 11-18, 20 and 21 is duly noted, however, the claims depend on independent claims 1, 10, and 19 either directly or indirectly, thus including all of the elements of the respective independent claims. In light of the reasons discussed above with respect to claims 1, 10 and 19, Applicant respectfully requests that the rejection of claims 2-9, 11-18, 20 and 21 be withdrawn.

For the reasons stated above, the reference cited by the Examiner does not anticipate or read upon the arrangements of claims 1, 10 and 19. Thus, claims 1-21 are patentable over the cited references.